

Red Rock Canyon National Conservation Area Environmental Education Program

Creep, Crawl, Hop, Fly
Classroom Program
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Revised by Sky McClain
1/10/01

Grade	Second
Curriculum	Life Science (2)2.3 Observe and describe the growth and life cycle of animals Life Science (2)2.1 Observe and describe ways to sort and group plants and animals.
Theme	Insects are almost everywhere and are easy to find. Learning about the complex cycle of insects will add excitement to any outdoor activity.
Goal	To foster an appreciation for the amazing world of insects. Through activities student will discover the special characteristics of insects and their life cycles.
Objective	Students will be able to: Identify parts of the insect body Distinguish between insects and other animals Describe the life cycle of at least one insect
Vocabulary	Arthropod Insect Exoskeleton

Background: Insects, some call them bugs, are part of the scientific family called Arthropod. Arthropods have external skeletons and jointed legs. It is the largest class in the animal kingdom with about 875,000 known species. Some scientists think there may be many more that have yet to be discovered.

Whether we are discussing a butterfly, dragonfly, housefly, mosquito, or bee each life cycle is specialized and goes through different stages. Often a pronounced change occurs in which the young larvae differs greatly from its adult state, i.e. cocoon to butterfly.

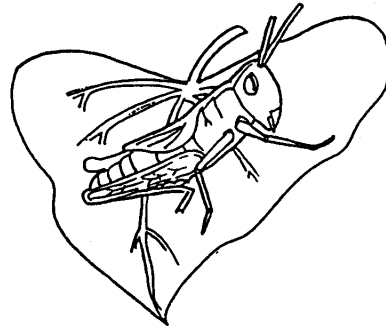
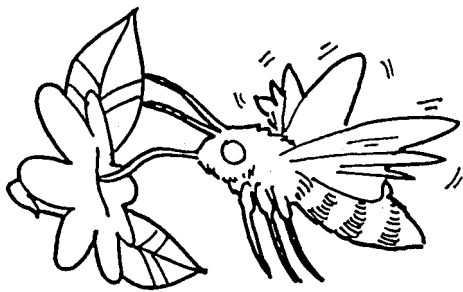
This is called metamorphosis. (Meta = change, Morphe = form) Some insects start as larvae and shed their skins over about a 3 week period as they eventually outgrow their exoskeleton.

They look like small worms at this stage. At a certain number of sheddings the outer skin hardens into a tough casing i.e. cocoon. While in this 'pupa' stage it undergoes a radical change in form.

Gradual metamorphosis is a bit different. The egg is called a nymph and looks like a baby adult that slowly develops wings.

Key Points:

- Insects are found in the desert. The dragonfly, bee tarantula hawk, grasshopper, and many other insects survive generation after generation in this harsh environment.
- Insects have three body parts – a head, thorax (legs and wings attach to this body part) and

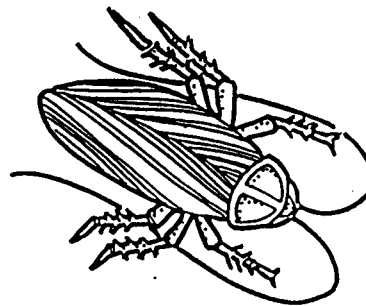
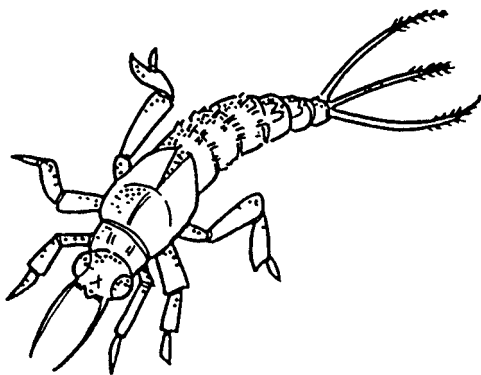


The Insect Song

To the tune of “Head, Shoulders, Knees and Toes”
Adapted by: unknown staff at New Canaan Nature Center

Use appropriate hand signals to indicate insect parts

Head, thorax, abdomen, abdomen
Head Thorax, Abdomen, Abdomen
Two eyes, two antennae, four wings, six legs
Head, Thorax, Abdomen, Abdomen

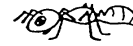


Name:

Date:

Insect Parts

All insects have three body parts – head, thorax, and abdomen.



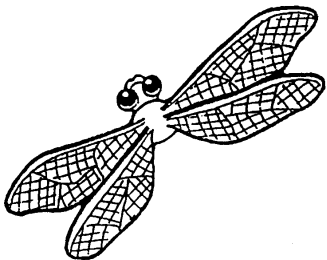
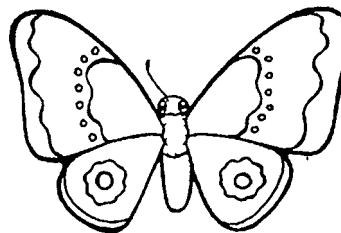
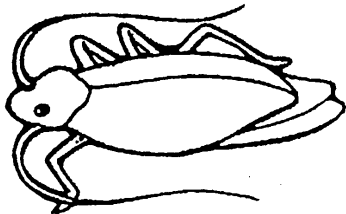
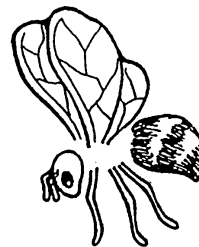
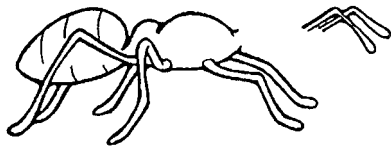
Some insects have two feelers, or antennae, on their heads.



All insects have six legs.



Draw the missing parts on these insects:



Growing Up in the Desert

Pre-site Activity

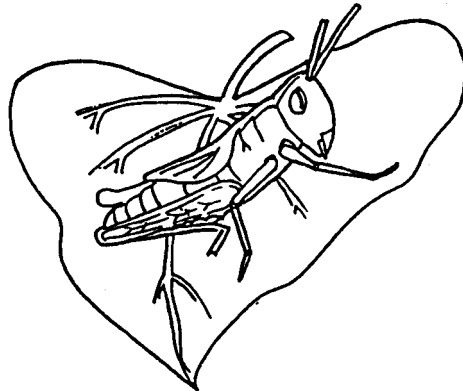
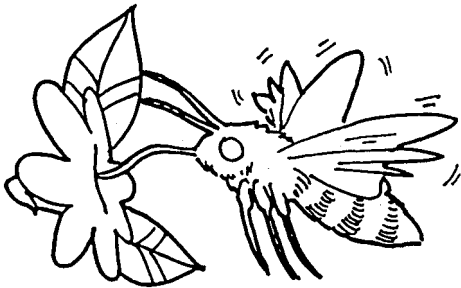
Insect Like or Not Like

Objective: Students collect information and depict it on a graph.

Materials: Chart, slips of paper with each student's name to glue on the chart.

Procedures:

1. Before your program take a survey to see how the students feel about insects.
2. Each student places a note on the column marked "yes" or "no".
3. Students count notes in each category.
4. Compare the numbers. How many more like or dislike insects? What do we do to compare two numbers to see which is greater?
5. Repeat the survey after the program. Again, compare the numbers.



abdomen.

- Insects have 6 legs
- Some insects don't have wings at certain stages of their life cycle
- Some insects have one pair of wings – the fly, mosquito
- Some insects have two pairs of wings – bees, dragonfly, wasp
- Some insects have scales on their wings – moths, butterfly
- Some have long back legs and hop - grasshopper, praying mantis
- Each species emerges, as its source of food becomes available.
 - Flowers in spring produce pollen/nectar, which bring out the bees, butterflies.
 - As leaves appear beetles and caterpillars do as well
 - As the grasses appear so do the grasshoppers
- By end of spring all insects are out.

Activities

Like or Not Like Graph (pre visit)
Insect Parts (pre visit)
Insect Song
Insects Have Six Legs
Life In a Bee Hive
Insect Life Cycles
Like or Not Like Graph (post visit)
Create An Insect (post visit)

Conclusion

Insects are necessary to the earth, humans, plants, and animals for their survival. Studying their life cycle reveals an intricate cycle of renewal and growth.